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EXAMINER
DOWNS, R

ART UNIT	PAPER NUMBER
2309	*16*

E3M1/1128

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DATE MAILED:

11/28/95

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined   ☒ Responsive to communication filed on _5/30/95_   ☐ This action is made final.

A shortened statutory period for response to this action is set to expire ___3___ month(s), _NO_ days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I   THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1. ☒ Notice of References Cited by Examiner, PTO-892.
2. ☐ Notice of Draftsman's Patent Drawing Review, PTO-948.
3. ☐ Notice of Art Cited by Applicant, PTO-1449.
4. ☐ Notice of Informal Patent Application, PTO-152.
5. ☐ Information on How to Effect Drawing Changes, PTO-1474.
6. ☐ _____

Part II   SUMMARY OF ACTION

1. ☒ Claims ___1-25___ are pending in the application.

   Of the above, claims _____ are withdrawn from consideration.

2. ☐ Claims _____ have been cancelled.

3. ☐ Claims _____ are allowed.

4. ☒ Claims ___1-25___ are rejected.

5. ☐ Claims _____ are objected to.

6. ☐ Claims _____ are subject to restriction or election requirement.

7. ☒ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.

8. ☐ Formal drawings are required in response to this Office action.

9. ☐ The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).

10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____ has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).

11. ☐ The proposed drawing correction, filed _____, has been ☐ approved; ☐ disapproved (see explanation).

12. ☐ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. _____ ; filed on _____ .

13. ☐ Since this application apppears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.

14. ☐ Other

EXAMINER'S ACTION

PTOL-326 (REV. 2-93)

1.   The disclosure is objected to because the computer programs in appendix A and B, are partially illegible and should be replaced with clean copies. Appropriate correction is required.

2.   The rejections under 35 U.S.C. § 102(b) over the TIMELINER language are **withdrawn**. The evidence provided by the affidavit of May 30, 1995 is persuasive.

3.   Claim 4 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 4, line 12, "from" should be deleted, because "the status ... has changed from between each said iterative evaluation" does not make sense.

4.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5.   Claims 1-19 stand and new claims 20-25 are rejected under 35 U.S.C. § 102(b) as being clearly anticipated by Perkins et al.,

"Adding Temporal Reasoning to Expert-System-Building Environments (February 1990).

   The applicant's arguments concerning the type of processing taught in the Perkins reference are not persuasive. In Perkins, a user and not a programmer can enter a decisional rule and the system will perform the remaining tasks. As can be seen from the title, as well as on page 24, Perkins teaches a modification of an expert system shell (Lockheed expert system shell "LES") for temporal reasoning. Expert system shells already incorporate control processing; i.e. include compiling functions and an inference engine. As was well known in the knowledge-based systems art, expert system shells are an alternative to creating expert systems from scratch, thus alleviating the need for a computer programmer. They enable a non-programmer to create an expert system by entering high level rules into the shell. The shell handles all other processing tasks. Perkins teaches the rule structure that is to be entered into the LES shell (see Figure 4 for the structure of the "WHEN" portion of a rule, and Figure 7 for an example of a complete WHEN-THEN rule).

   Furthermore, Perkins teaches an "AT" relation (on page 26) that is comparable to the "WHEN" condition of applicant's invention; e.g., AT T-30. Perkins teaches "relative" time rules which are comparable to the "WHENEVER" condition of applicant's invention; e.g., temperature > 75 degrees F ALLTIMES DURING last

15 minutes. <u>Perkins</u> teaches an "AFTER" relation and "absolute"
time rules which are comparable to the "EVERY" condition of
applicant's invention; e.g., AFTER 30 minutes from the present
time.

6.   The prior art made of record and not relied upon is
considered pertinent to applicant's disclosure.

J. Allen, "Towards a General Theory of Action and Time" (1984),
describes a time interval theory of representing temporal
knowledge and teaches thirteen possible relations that can hold
between time intervals (see pages 128-129).

J. Mylopoulos et al., "KNOWBEL: A Hybrid Expert System Building
Tool" (November 1990), describes an expert system shell including
facilities for temporal reasoning based on Allan's theory of time
intervals and the 13 temporal relations.

G. Grelinger and P. Morizet-Mahoudeaux, "A Fully Integrated Real-
Time Multi-Tasking Knowledge-Based System: Application to an On-
Board Diagnostic System" (March 1992), describes a knowledge
based system containing capabilities for temporal reasoning,
wherein specific rules can be analyzed at a given sample rate
(see section 3.2.2 Periodic activation) and can incorporate
various temporal relations (see section 3.4.1 Temporal
relations).

7.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Downs whose telephone number is (703) 305-9642.

RWD
November 24, 1995

Robert W. Downs

**ROBERT W. DOWNS
PRIMARY EXAMINER
GROUP 2300**